

Claims

What is claimed is:

1. A method of modulating a boom assembly to perform in a linear manner, wherein said boom assembly includes a boom and a stick, comprising the steps of:

sending at least one lever signal to a control device indicative of operator desired direction and desired velocity of said boom and said stick;

calibrating said lever signals to provide a boom command signal and a stick command signal;

applying an algorithm to said boom command signal and said stick command signal, wherein said algorithm uses command signal mapping; and

providing a modulating factor to said control device as a result of said algorithm.

2. The method as set forth in claim 1, further including the step of adding said stick command signal to said boom command signal to provide a calculated signal.

3. The method as set forth in claim 2, wherein said command signal mapping includes:

mapping said boom command signal to provide a boom map output constant;

mapping said stick command signal to provide a stick map output constant; and

mapping said calculated signal to provide a subtraction factor map output constant.

4. The method as set forth in claim 3, further including the step of multiplying said boom map output signal constant, stick map output signal constant, and subtraction factor map output signal constant to provide a final subtraction factor.

5. The method as set forth in claim 4, further including the step of subtracting said final subtraction factor from a full boom actuator signal to provide a pre-dampened modulating factor.

6. The method as set forth in claim 1, wherein said algorithm includes applying a rate limit control to control the rate at which said modulating factor could increase or decrease with respect to time.

7. The method as set forth in claim 1, further including the step of the step of applying said modulating factor to said boom command signal to modulate said boom movement.

8. A method of using a work machine to grade a surface, the work machine having a boom, a stick, and a work implement coupled to the stick, each of the boom and stick is controllable by at least one lever, comprising the steps of:

activating at least one lever to produce a command signal comprising at least one of a stick command signal and a boom command signal;  
communicating said command signal to a control device; and  
using said control device to modulate said command signal in accordance with a command signal mapping such that said work implement travels in a linear path.

9. The method set forth in claim 8, further including the step of determining a modulation factor as a result of said command signal mapping.

10. The method set forth in claim 9, wherein said control device includes the step of applying said modulation factor to said command signal such that the command signal is at least increased or decreased.